



MERRIMACK FIRE DEPARTMENT

Office of the Fire Marshal

OFM-CON-03-004
Revision Date March 2011

NFPA 13R FIRE SPRINKLER SYSTEM PLAN CONDITIONS

Fire Sprinkler System plan(s) MUST be reviewed and approved by the Merrimack Fire Department, Office of the Fire Marshal prior to the start of construction. The design and any changes must be fully compliant with NFPA 1, NFPA 101, NFPA 72, and NFPA 13R, local, state and nationally recognized regulations, ordinances, rules or codes and approved by the Fire Marshal. The Office of the Fire Marshal reserves the right to require any changes by the Authority Having Jurisdiction (AHJ) or for regulatory compliance at any time.

1. The Town of Merrimack, Department of Fire Rescue utilizes NFPA 13R, Standards for the Installation of Sprinkler Systems and documents listed in Chapter 2 of that code; prescribing regulations governing conditions hazardous to life and property from fire or explosion; providing for the issuance of permits. The following additional requirements are required by the Authority Having Jurisdiction.
2. All gates/doors within the structure or providing access to the structure(s) if locked shall be keyed to a building MASTER KEY and the master key placed into a SUPRA Key Box to provide keys for access to all doors at the building in the event of an emergency. Applications for the Key Box can be obtained from the Office of the Fire Marshal, 603-424-3690.
3. The Key Box shall be installed in an unobstructed location outside of the door which leads directly to the Fire Alarm Control Panel (FACP) at a height accessible to emergency personnel (4 ft. To 5 ft. above the ground). Additional Key Boxes may be required depending on the size and configuration of the structure(s) and property.
4. A 30 Degree Down turned elbow must be installed prior to the approved Fire Department Connection (FDC). The FDC must be located to allow access for the approaching fire apparatus, (the main entryway road side of the building or parking lot). The FDC SHALL NOT be located within any alley way or between buildings which are less than 20 feet in width.
5. A post Indicator Valve (PIV), or Wall Post Indicator Valve (WPIV) or other type of shutoff if approved by the Fire Marshal must be installed on the sprinkler feed line to allow the sprinkler system to be shutdown for the building without shutting off domestic water. The shutoff location shall be approved by the Office of the Fire Marshal and indicated on the system plan. The shutoff SHALL be locked and monitored with a tamper switch wired directly into the fire alarm control panel to signal a trouble alarm when the valve closed.
6. Each floor and each individual apartment or residency, electrical room, mechanical room, common areas on each floor, and storage areas must have individual sprinkler system shutoff valves which will allow for the isolation of the sprinkler system for that area only without effecting the remainder of the buildings fire protection system in the event of an area problem. All shutoff valves must be equipped with tamper and flow switches tied directly to the fire alarm control panel.
7. All stairways shall be protected underneath with the required number of automatic sprinkler heads.
8. All tamper switches on the sprinkler system must be connected to the internal fire alarm system and indicate a trouble alarm if activated. The audible/visual alarm must be able to notify occupants in the building when passing by the fire alarm panel.



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9. A sprinkler system requires a fire alarm control panel that must be connected to a UL Certified Central Station Alarm Company (NFPA 72, NFPA 1, and NFPA 101) via an automatic dialer system capable of notifying responders in the event of an activation of the system for any trouble, smoke, fire or emergency condition.
10. A water motor gong or electric bell must be installed outside the building to indicate water flow through the sprinkler system.
11. The flow switch must activate the fire alarm system within 30 to 60 seconds of the activation of a sprinkler head or inspector test port for the system.
12. The sprinkler system must be fully tested and certified by a qualified installer. All engineering test and certification documentation shall be provided to the Fire Marshals Office prior to final acceptance by the Fire Department (Pre-Test Certification Form). For final acceptance test please notify the department two (2) working days prior to the needed inspection. Devices will be tested again and witnessed by the Fire Inspector. Any point failure will conclude the inspection and the inspection will be rescheduled for acceptance at a later date (a re-inspection fee of \$50.00 will be assessed).
13. A minimum of two working days notice to the Office of the Fire Marshal is required for the acceptance Inspection on the Rough Sprinkler piping system prior to closing in of walls and or ceilings.
14. An open sprinkler head must be installed into the inspector discharge port at the furthest point in the system for the final flow test.
15. The Fire Department Connection(s) (FDC) must be identified with a sign indicating its location with letter's no smaller than three (3) inches in height. If the FDC is blocked by landscaping or other items the sign must be placed in front of the obstacles identifying the location to emergency responders.
16. A red strobe light (minimum 4 inches in diameter and 6 inches high) shall be located above the SUPRA Key Box indicating the location of the SUPRA Key box, access door to the building and the Fire Alarm Control Panel to expedite emergency access to the building.
17. All buildings must be fitted with an exterior red strobe light (minimum 4 inches in diameter and 6 inches high) capable of notifying responding emergency personnel which building or location is in alarm (only if the key box strobe will not perform this function.)
18. The sprinkler system plan review (new and modifications) must be submitted to the Town of Merrimack Office of the Fire Marshal for review prior to any permits being issued. Allow two weeks for plan review and permit issuance. No work can be performed before the issuance of a permit unless prior arrangements have been agreed to. Fees for plan reviews are dependant upon the current fee structure established by the towns governing body. Applications can be obtained at the Fire Marshals Office located at 432 Daniel Webster Highway, Central Fire Station.
19. All sprinkler system plan submittal packages must contain the following items for review:
 - i. Two complete sets of stamped design prints. The prints must contain all information as required by the current issue of NFPA 13R including but not limited to hanger locations, seismic bracing locations, pipe schedule and sprinkler head spacing etc.
 - ii. One set of water supply and flow calculations.
 - iii. One set of product submittals (cut sheets).
 - iv. A completed Merrimack Fire Department sprinkler system permit application.
 - v. A check made out to the Town Of Merrimack for the appropriate amount as calculated on the permit application.



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Failure to include all required items may result in a delay in issuance of the permit.

20. A licensed fire protection engineer shall stamp all sprinkler system design plans before submitting to the Merrimack Fire Department, Office of the Fire Marshal, for final approval and permit unless other arrangements are agreed to prior to plan submittal.

ALL PRINTS AND DRAWINGS THAT ARE APPROVED FOR INSTALLATION WILL BE AFFIXED WITH A STAMP FROM THE TOWN OF MERRIMACK, OFFICE OF THE FIRE MARSHAL. ANY CHANGES, OR ADDITIONS REQUIRED BY THE FIRE MARSHAL'S OFFICE WILL BE NOTED ON THE PRINTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND INSTALLER TO REVIEW THE APPROVED PLAN SET AND INCORPORATE ANY CHANGES REQUIRED. THESE PLAN CONDITIONS SHALL BE KEPT WITH THE ORIGINAL DRAWINGS. THE ORIGINAL STAMPED DRAWINGS SHALL BE MADE AVAILABLE FOR REVIEW AT THE TIME OF ANY INSPECTION(S) BY MEMBERS OF THE MERRIMACK FIRE DEPARTMENT TO ENSURE THAT ALL CONDITIONS HAVE BEEN ADHERED TO PRIOR TO THE ACCEPTANCE OF THE SYSTEM.

Please direct any questions to the town of Merrimack, Office of the Fire Marshal at 603-424-3690.